

LISTING OF CLAIMS

1. (Currently Amended) A method for operating a switching node, comprising:
maintaining a packet-switched fabric **that switches time-division multiplexed (TDM) traffic and packet-based traffic; and**
overlaying the packet-switching of the fabric with a repeating synchronized frame, **the frame to allocate timeslots for switching the TDM traffic and the packet-based traffic; and**
switching both the TDM traffic and the packet-based traffic in accordance with the repeating synchronized frame.
2. (Original) A method according to claim 1, wherein overlaying the packet-switching of the fabric with the synchronized frame further comprises:
maintaining a table having a row of entries, each entry corresponding to a timeslot of the frame;
populating the entries in the table according to a contention-free allocation; and
transmitting a cell on a timeslot in accordance with the populated table.
3. (Original) A method according to claim 2, wherein maintaining the table comprises maintaining a timeslot-reservation table for TDM traffic, and wherein populating the entries in the table with a contention-free allocation comprises populating the entries in the table with a contention-free algorithm to provide exclusive reservation of timeslots in the frame for cells of TDM traffic.
4. (Original) A method according to claim 3, wherein overlaying the packet-switching of the fabric with the synchronized frame further comprises providing a contention-free allocation in time and space of Time-Division-Multiplex (TDM) traffic using a Slepian-Duguid-based algorithm.
5. (Original) A method according to claim 2, wherein maintaining the table comprises maintaining the table with a central management that manages tables of multiple switch interface devices in a system.

6. (Original) A method according to claim 2, wherein transmitting the cell in accordance with the populated table further comprises transmitting cells of TDM traffic from multiple discrete switch interface devices, each according to a populated table, to avoid arbitration of the TDM traffic via a central scheduler at a core of the switch fabric.

7. (Original) A method according to claim 1, further comprising providing a synchronization signal to demark the frame.

8. (Original) A method according to claim 1, wherein overlaying the packet-switching of the fabric with the synchronized frame further comprises providing distributed switching of TDM traffic from multiple sources of TDM traffic over the fabric.

9. (Currently Amended) A method according to claim 2, wherein populating the table comprises populating a TDM timeslot reservation table, and further comprising:

preventing protocol data unit (PDU) traffic from being transmitted on a timeslot that is reserved for TDM traffic;

determining whether an egress device has bandwidth that is not reserved for TDM traffic by the TDM timeslot reservations; and

transmitting PDU traffic to the egress device if ~~it is determined that~~ the egress device has available bandwidth that does not contend with the TDM traffic reservations as a result of the determination.

10. (Currently Amended) A switching system comprising:

a packet-switched switching fabric that switches time-division multiplexed (TDM) traffic and packet-based traffic;

multiple switch interfaces having a table of entries, each entry corresponding with a timeslot on a frame, the frame to allocate timeslots for switching the TDM traffic and the packet-based traffic, the multiple switch interfaces to transmit cells of traffic in accordance with the entries in the table; and

a switch management circuit to define the frame and synchronize switching of traffic over the fabric to switching both the TDM traffic and the packet-based traffic in accordance with the frame.

11. (Original) A system according to claim 10, wherein the switch management circuit further populates the entries in the table according to a contention-free allocation.

12. (Currently Amended) A system according to claim 11, further comprising the switch management circuit to manage the ~~tables~~ table to provide timeslot-reservation table for Time Division Multiplexed (TDM) traffic.

13. (Currently Amended) A system according to claim 12, wherein the switch management circuit provides modifications of the ~~tables~~ table to the multiple switch interfaces.

14. (Original) A system according to claim 10, wherein the switch management circuit to synchronize the switching of traffic over the fabric further comprises the switch management circuit to provide a synchronization signal to the switch fabric and the multiple switch interfaces to demark the frame.

15. (Original) A system according to claim 10, wherein the multiple switch interfaces are directly inter-connectable for system input to system output via the timeslots on the frame synchronized by the switch management circuit.

16. (Currently Amended) A system according to claim 10, wherein the switch management circuit further prevents protocol data unit (PDU) traffic from being transmitted on a timeslot that is reserved for TDM traffic, determines whether an egress device has bandwidth that is not reserved for TDM traffic by ~~the~~ TDM timeslot reservations, and transmits PDU traffic to the egress device if it is determined that the egress device has available bandwidth that does not contend with the TDM traffic reservations.

17. (Original) A system according to claim 10, wherein the switch fabric comprises multiple discrete switching circuits.
18. (Original) A system according to claim 10, wherein the multiple switch interfaces comprise multiple ingress/egress linecards.
19. (Currently Amended) A system according to claim 10, wherein the switch management circuit comprises a switch management linecard having a circuit to generate a synchronization signal and a circuit to provide management of the ~~tables~~ table.